UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/030,798	05/09/2002	Oscar Salonaho	019B.0024.U1(US)	5614

29683 7590 06/25/2010
HARRINGTON & SMITH
4 RESEARCH DRIVE, Suite 202
SHELTON, CT 06484-6212

EXAMINER	
DEAN, RAYMOND S	

ART UNIT	PAPER NUMBER
2618	

MAIL DATE	DELIVERY MODE
06/25/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/030,798	SALONAHO ET AL.	
	Examiner	Art Unit	
	RAYMOND S. DEAN	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 May 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *See Continuation Sheet* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5-9,12-29,31-37,54,64,76,89,102,117,133,150,163,164,173,175 - 178.* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 January 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continuation of Disposition of Claims: Claims pending in the application are 1-3,5-9,12-29,31-37,54,64,76,89,102,117,133,150,163,164,173,175 - 178.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see pages 12 – 14 of Applicants' remarks regarding Charbonnier filed April 8, 2010 with respect to the rejection(s) of the independent claims under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly found references Periyalwar et al. (6,018,662) and Sundelin et al. (6,144,861)

Periyalwar, which teaches handoff, teaches the feature of measuring the strength of the communication from at least one other cell to take into account a condition of said at least one other cell if the measured strength of the communication from the at least one other cell satisfies a predetermined condition, wherein said predetermined condition is that the strength of the communication from at least one other cell is greater than a threshold (Cols. 4 lines 23 – 65, 5 lines 1 – 21, at least one other cell whose pilot strength exceeds a threshold will be added to the active set and thus taken into account), if said measuring is performed, comparing the measured strength of the communication from the current cell and the measured strength of the communication from the at least one other cell being measured in the measuring (Cols. 4 lines 23 – 65, 5 lines 1 – 21, in soft handoff there will be a periodic comparison between current or serving cell and the other cell(s) in the active set in order to determine which cell has the better signal strength, when a cell in the active set other than the current cell proves

to have a better signal strength the connection with the current/serving cell will be released and the call will be continued only through the new cell thus completing the handoff).

Sundelin, which also teaches soft handoff, teaches the modifying the signal strength of the communication from at least one other cell when the strength of the communication from the at least one other cell is greater than a threshold (Abstract, the signal strength of the cells in the active set are modified via the power control, said power control of the signals of the cells in the active set can only occur after said cells have been placed in the active set, which means that said modifying occurs after the pilot strength of the at least one other cell exceeds a threshold). The comparison of the measured strength of the communication from the current cell and the measured strength of the communication from the at least one other cell can only occur after the cells have been placed in the active set. Since the modifying occurs after said cells have been placed in the active set a scenario is rendered that comprises said comparison occurring if said modifying is performed.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1 – 3, 7 – 22, 29, 33, 54, 64, 76, 89, 102, 117, 133, 150, 163, 164, 173, 175, 176, 177, 178 are rejected under 35 U.S.C. 103(a) as being unpatentable over Charbonnier (5,241,686) in view of Periyalwar et al. (6,018,662) and in further view of Sundelin et al. (6,144,861)

Regarding Claims 1, 29, Charbonnier teaches a method for selecting a new cell for a station in a cellular telecommunication system, said station being associated with a current cell, said method comprising the steps of: measuring at the station the strength of a communication from said current cell (Column 8 lines 19 – 22, Column 8 lines 41 – 57, Esubi is the strength of the communication); measuring at the station the strength of a communication from at least one other cell (Column 8 lines 41 – 57);

Charbonnier does not teach modifying a result of measuring in which the strength of the communication from the at least one other cell and/or the current cell is measured to take into account a condition of said current and/or said at least one other cell if the measured strength of the communication from the at least one other cell satisfies a predetermined condition; if modifying is performed, comparing the measured strength of the communication from the current cell and the measured strength of the communication from the at least one other cell being modified in the modifying; depending on the results from the comparison, changing the current cell with which the station is associated, wherein said predetermined condition is that the strength of the communication from at least one other cell is greater than a threshold.

Periyalwar, which teaches handoff, teaches the feature of measuring the strength of the communication from at least one other cell to take into account a condition of said

at least one other cell if the measured strength of the communication from the at least one other cell satisfies a predetermined condition, wherein said predetermined condition is that the strength of the communication from at least one other cell is greater than a threshold (Cols. 4 lines 23 – 65, 5 lines 1 – 21, at least one other cell whose pilot strength exceeds a threshold will be added to the active set and thus taken into account), if said measuring is performed, comparing the measured strength of the communication from the current cell and the measured strength of the communication from the at least one other cell being measured in the measuring (Cols. 4 lines 23 – 65, 5 lines 1 – 21, in soft handoff there will be a periodic comparison between current or serving cell and the other cell(s) in the active set in order to determine which cell has the better signal strength, when a cell in the active set other than the current cell proves to have a better signal strength the connection with the current/serving cell will be released and the call will be continued only through the new cell thus completing the handoff); and depending on result from the comparison, changing the current cell with which the station is associated, wherein said predetermined condition is that the strength of the communication from at least one other cell is greater than a threshold (Cols. 4 lines 23 – 65, 5 lines 1 – 21, in soft handoff there will be a periodic comparison between current or serving cell and the other cell(s) in the active set in order to determine which cell has the better signal strength, when a cell in the active set other than the current cell proves to have a better signal strength the connection with the current/serving cell will be released and the call will be continued only through the new cell thus completing the handoff).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Charbonnier with the above features of Periyalwar for the purpose of providing a soft handoff method that optimizes bandwidth and processing usage as taught by Periyalwar.

Sundelin, which also teaches soft handoff, teaches the modifying the signal strength of the communication from at least one other cell when the strength of the communication from the at least one other cell is greater than a threshold (Abstract, the signal strength of the cells in the active set are modified via the power control, said power control of the signals of the cells in the active set can only occur after said cells have been placed in the active set, which means that said modifying occurs after the pilot strength of the at least one other cell exceeds a threshold), if modifying is performed, comparing the measured strength of the communication from the current cell and the measured strength of the communication from the at least one other cell being modified in the modifying (Abstract, the comparison of the measured strength of the communication from the current cell and the measured strength of the communication from the at least one other cell can only occur after the cells have been placed in the active set, since the modifying occurs after said cells have been placed in the active set a scenario is rendered that comprises said comparison occurring if said modifying is performed).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Charbonnier in view of Periyalwar with the system of Sundelin for the purpose of reducing interference as taught by Sundelin.

Regarding Claim 2, Charbonnier in view of Periyalwar and in further view of Sundelin teaches all of the claimed limitations recited in Claim 1. Charbonnier further teaches a value is added to the measured strength of the communication from the at least one other cell (Column 8 lines 41 – 45).

Regarding Claim 3, Charbonnier in view of Periyalwar and in further view of Sundelin teaches all of the claimed limitations recited in Claim 1. Charbonnier further teaches a function is applied to the measured strength of the communication from the at least one other cell (Column 8 lines 41 – 45).

Regarding Claims 7, 33, 34, Charbonnier in view of Periyalwar and in further view of Sundelin teaches all of the claimed limitations recited in Claims 1, 2, 3. Sundelin further teaches wherein modifying information as to how the measured strength of a communication from a neighboring cell is to be modified is in the communication from at least one other cell (Abstract, Col. 6 lines 25 – 64, the modification of power change is based on the SIR of the signal from the neighboring cell in the active set).

Regarding Claim 8, Charbonnier in view of Periyalwar and in further view of Sundelin teaches all of the claimed limitations recited in Claim 7. Charbonnier further teaches wherein the station is provided with timing information defining when the station should next check for the modifying information (Column 6 lines 59 – 68, the relays continuously broadcast the modifying information, when said relays broadcast said modifying information the mobile then reads said modifying information thus the reception of said modifying information is a cue to the mobile station to read said

modifying information, since the broadcasting in done on a continuous or periodic basis the mobile station will check for said broadcast information on a continuous or periodic basis, the mobile station will therefore be provided with timing information enabling said mobile station to periodically read said modifying information).

Regarding Claim 9, Charbonnier in view of Periyalwar and in further view of Sundelin teaches all of the claimed limitations recited in Claim 8. Charbonnier further teaches wherein the timing information is in the communication from the neighboring cell (Column 6 lines 59 – 68, the relays continuously broadcast the modifying information, when said relays broadcast said modifying information the mobile then reads said modifying information thus the reception of said modifying information is a cue to the mobile station that it is time to read said modifying information, the cue is therefore the timing information).

Regarding Claims 12, 54, Charbonnier in view of Periyalwar and in further view of Sundelin teaches all of the claimed limitations recited in Claims 1 – 3, 7 – 9, and 11, 164. Charbonnier further teaches wherein a value is added to the measured strength of the communication from the current cell prior to said step of comparing (Column 8 lines 41 – 50).

Regarding Claim 13, Charbonnier in view of Periyalwar and in further view of Sundelin teaches all of the claimed limitations recited in Claim 12. Charbonnier further teaches wherein if the current cell is changed in said step of changing from an old current cell to a new current cell, the t value is no longer added to the measured strength of the communication from the old current cell and a new value is added to the

measured strength of the communication from the new current cell (Column 8 lines 46 – 57, as the mobile station moves the old current cell will eventually not be a part of cells that are scanned thus no correction parameter will be added to beacon route for said old current cell, the new offset value that is added to the signal strength of the new cell that is selected is the correction parameter value for that new cell).

Regarding Claim 14, 64 Charbonnier in view of Periyalwar and in further view of Sundelin teaches all of the claimed limitations recited in Claims 1 – 3, 7 – 13. Charbonnier further teaches wherein the communication from the at least one of the current cell and the at least one other cell comprises the broadcast control channel (Column 4 lines 51 – 55, Column 6 lines 59 – 60, the beacon channel is the broadcast control channel).

Regarding Claims 15, 76, Charbonnier in view of Periyalwar and in further view of Sundelin teaches all of the claimed limitations recited in Claims 1 – 3, 7 – 14. Charbonnier further teaches wherein the station has at least one common channel in the current cell (Column 4 lines 51 – 55, Column 6 lines 59 – 60, the beacon channel is the broadcast control channel, the broadcast control channel is a common channel).

Regarding Claims 16, 89, Charbonnier in view of Periyalwar and in further view of Sundelin teaches all of the claimed limitations recited in Claims 1 – 3, 7 – 14. Charbonnier further teaches wherein the station has at least one dedicated channel in the current cell (Column 4 lines 11 – 13, cellular radio communication networks comprise CDMA networks, which have dedicated data channels).

Regarding Claims 17, 102 Charbonnier in view of Periyalwar and in further view of Sundelin teaches all of the claimed limitations recited in Claims 1 – 3, 7 – 16. Charbonnier further teaches wherein the station is arranged to use the same frequency in the current cell and the at least one other cell (Column 4 lines 11 – 13, cellular radio communication networks comprise CDMA networks, which conduct frequency reuse).

Regarding Claims 18, 117 Charbonnier in view of Periyalwar and in further view of Sundelin teaches all of the claimed limitations recited in Claims 1 – 3, 7 – 17. Charbonnier further teaches wherein the station is a mobile terminal (Column 8 lines 19 – 22).

Regarding Claims 19, 133, Charbonnier in view of Periyalwar and in further view of Sundelin teaches all of the claimed limitations recited in Claims 1 – 3, 7 – 18. Charbonnier further teaches wherein the telecommunication system is a code division multiple access system (Column 4 lines 11 – 13, cellular radio communication networks comprise CDMA networks).

Regarding Claims 20, 150, Charbonnier in view of Periyalwar and in further view of Sundelin teaches all of the claimed limitations recited in Claims 1 – 3, 7 – 19. Charbonnier further teaches wherein the telecommunication system is a time division multiple access system (Column 4 lines 11 – 13, cellular radio communication networks comprise TDMA networks).

Regarding Claims 21, Charbonnier in view of Periyalwar and in further view of Sundelin teaches all of the claimed limitations recited in Claims 19, 20. Charbonnier further teaches wherein the telecommunication system is code division/time division

multiple access hybrid (Column 4 lines 11 – 13, cellular radio communication networks comprise hybrid CDMA/TDMA networks).

Regarding Claim 22, Charbonnier teaches a station for use in a cellular communication system, said station being associated with a current cell, said station comprising: measurer for measuring the received strength of a communication from said current cell (Column 8 lines 19 – 22, Column 8 lines 41 – 57, Esubi is the strength of the communication); a measurer for measuring the received strength of a communication from at least one other cell (Column 8 lines 41 – 57).

Charbonnier does not teach a controller for modifying the measured received strength of the communication from the at least one other cell to take into account a condition of said current and/or said at least one other cell if the measured strength of the communication from the at least one other cell satisfies a predetermined condition, the controller for comparing, if the controller has modified the measured received strength, the modified measured received strength with the measured received strength of a communication from the current cell; the controller for causing, depending on results of the comparison, the current cell with which the station is associated to be changed, wherein said predetermined condition is that the strength of the communication from at least one other cell is greater than a threshold.

Periyalwar, which teaches handoff, teaches the feature of a controller measuring the strength of the communication from at least one other cell to take into account a condition of said at least one other cell if the measured strength of the communication from the at least one other cell satisfies a predetermined condition, wherein said

predetermined condition is that the strength of the communication from at least one other cell is greater than a threshold (Cols. 4 lines 23 – 65, 5 lines 1 – 21, at least one other cell whose pilot strength exceeds a threshold will be added to the active set and thus taken into account), if said measuring is performed by the controller, the controller comparing the measured strength of the communication from the current cell and the measured strength of the communication from the at least one other cell being measured in the measuring (Cols. 4 lines 23 – 65, 5 lines 1 – 21, in soft handoff there will be a periodic comparison between current or serving cell and the other cell(s) in the active set in order to determine which cell has the better signal strength, when a cell in the active set other than the current cell proves to have a better signal strength the connection with the current/serving cell will be released and the call will be continued only through the new cell thus completing the handoff); and depending on result from the comparison, changing the current cell with which the station is associated, wherein said predetermined condition is that the strength of the communication from at least one other cell is greater than a threshold (Cols. 4 lines 23 – 65, 5 lines 1 – 21, in soft handoff there will be a periodic comparison between current or serving cell and the other cell(s) in the active set in order to determine which cell has the better signal strength, when a cell in the active set other than the current cell proves to have a better signal strength the connection with the current/serving cell will be released and the call will be continued only through the new cell thus completing the handoff).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Charbonnier with the above features of

Periyalwar for the purpose of providing a soft handoff method that optimizes bandwidth and processing usage as taught by Periyalwar.

Sundelin, which also teaches soft handoff, teaches the modifying the signal strength of the communication from at least one other cell when the strength of the communication from the at least one other cell is greater than a threshold (Abstract, the signal strength of the cells in the active set are modified via the power control, said power control of the signals of the cells in the active set can only occur after said cells have been placed in the active set, which means that said modifying occurs after the pilot strength of the at least one other cell exceeds a threshold), if modifying is performed, comparing the measured strength of the communication from the current cell and the measured strength of the communication from the at least one other cell being modified in the modifying (Abstract, the comparison of the measured strength of the communication from the current cell and the measured strength of the communication from the at least one other cell can only occur after the cells have been placed in the active set, since the modifying occurs after said cells have been placed in the active set a scenario is rendered that comprises said comparison occurring if said modifying is performed).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Charbonnier in view of Periyalwar with the system of Sundelin for the purpose of reducing interference as taught by Sundelin.

Regarding Claim 163, Charbonnier teaches a station for use in a cellular communication system, said station being associated with a current cell, said station

comprising: measurer for measuring the received strength of a communication from said current cell (Column 8 lines 19 – 22, Column 8 lines 41 – 57, Esubi is the strength of the communication); measurer for measuring the received strength of a communication from at least one other cell (Column 8 lines 41 – 57); and a network element for sending communications to the station, said network element being arranged to send offset information to the station (Column 9 lines 16 – 17, the relay is a network element), the offset information being used by the station to modify measurements of the strength of communications from at least one other cell (Column 2 lines 26 – 47, Column 8 lines 41 – 57).

Charbonnier does not teach a controller for modifying the measured received strength of the communication from the at least one other cell to take into account a condition of said current and/or said at least one other cell if the measured strength of the communication from the at least one other cell satisfies a predetermined condition, the controller for comparing, if the controller has modified the measured received strength, the modified measured received strength with the measured received strength of a communication from the current cell; the controller for causing, depending on results of the comparison, the current cell with which the station is associated to be changed, wherein said predetermined condition is that the strength of the communication from at least one other cell is greater than a threshold.

Periyalwar, which teaches handoff, teaches the feature of a controller measuring the strength of the communication from at least one other cell to take into account a condition of said at least one other cell if the measured strength of the communication

from the at least one other cell satisfies a predetermined condition, wherein said predetermined condition is that the strength of the communication from at least one other cell is greater than a threshold (Cols. 4 lines 23 – 65, 5 lines 1 – 21, at least one other cell whose pilot strength exceeds a threshold will be added to the active set and thus taken into account), if said measuring is performed by the controller, the controller comparing the measured strength of the communication from the current cell and the measured strength of the communication from the at least one other cell being measured in the measuring (Cols. 4 lines 23 – 65, 5 lines 1 – 21, in soft handoff there will be a periodic comparison between current or serving cell and the other cell(s) in the active set in order to determine which cell has the better signal strength, when a cell in the active set other than the current cell proves to have a better signal strength the connection with the current/serving cell will be released and the call will be continued only through the new cell thus completing the handoff); and depending on result from the comparison, changing the current cell with which the station is associated, wherein said predetermined condition is that the strength of the communication from at least one other cell is greater than a threshold (Cols. 4 lines 23 – 65, 5 lines 1 – 21, in soft handoff there will be a periodic comparison between current or serving cell and the other cell(s) in the active set in order to determine which cell has the better signal strength, when a cell in the active set other than the current cell proves to have a better signal strength the connection with the current/serving cell will be released and the call will be continued only through the new cell thus completing the handoff).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Charbonnier with the above features of Periyalwar for the purpose of providing a soft handoff method that optimizes bandwidth and processing usage as taught by Periyalwar.

Sundelin, which also teaches soft handoff, teaches the modifying the signal strength of the communication from at least one other cell when the strength of the communication from the at least one other cell is greater than a threshold (Abstract, the signal strength of the cells in the active set are modified via the power control, said power control of the signals of the cells in the active set can only occur after said cells have been placed in the active set, which means that said modifying occurs after the pilot strength of the at least one other cell exceeds a threshold), if modifying is performed, comparing the measured strength of the communication from the current cell and the measured strength of the communication from the at least one other cell being modified in the modifying (Abstract, the comparison of the measured strength of the communication from the current cell and the measured strength of the communication from the at least one other cell can only occur after the cells have been placed in the active set, since the modifying occurs after said cells have been placed in the active set a scenario is rendered that comprises said comparison occurring if said modifying is performed).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Charbonnier in view of Periyalwar with the system of Sundelin for the purpose of reducing interference as taught by Sundelin.

Regarding Claim 164, Charbonnier in view of Periyalwar and in further view of Sundelin teaches all of the claimed limitations recited in Claim 163. Charbonnier further teaches wherein the step of decoding a communication is dependent upon the measured strength of the communication satisfying a predetermined condition (Column 2 lines 26 – 47, Column 9 lines 16 – 17, in order for the field correction parameter to be properly received the signal strength must meet a minimum received signal strength threshold).

Regarding Claims 173, 175, Charbonnier in view of Periyalwar and in further view of Sundelin teaches all of the claimed limitations recited in Claims 1, 29. D'Amico further teaches wherein said steps of measuring at the station the strength of a communication from the cell and measuring at the station the strength of a communication from another cell are performed simultaneously (Col. 4 lines 18 – 25, in order for the signal strengths to be compared there will need to be simultaneous measurement of said signal strengths).

Regarding Claims 176, 178, Charbonnier teaches a method for selecting a new cell/changing at least one current cell for a station in a cellular telecommunication system, said station being associated with a current cell, said method comprising the steps of: measuring at the station the strength of a communication from said current cell (Column 8 lines 19 – 22, Column 8 lines 41 – 57, Esubi is the strength of the communication); measuring at the station the strength of a communication from at least one other cell (Column 8 lines 41 – 57).

Charbonnier does not teach modifying a result of measuring in which the strength of the communication from the at least one other cell and/or the current cell is measured to take into account a condition of said current and/or said at least one other cell if the measured strength of the communication from the at least one other cell satisfies a predetermined condition; if modifying is performed, comparing the measured strength of the communication from the current cell and the measured strength of the communication from the at least one other cell being modified in the modifying; depending on the results from the comparison, changing the current cell with which the station is associated, wherein said predetermined condition is that the strength of the communication from at least one other cell is greater than a threshold.

Periyalwar, which teaches handoff, teaches the feature of measuring the strength of the communication from at least one other cell to take into account a condition of said at least one other cell if the measured strength of the communication from the at least one other cell satisfies a predetermined condition, wherein said predetermined condition is that the strength of the communication from at least one other cell is greater than a threshold (Cols. 4 lines 23 – 65, 5 lines 1 – 21, at least one other cell whose pilot strength exceeds a threshold will be added to the active set and thus taken into account), if said measuring is performed, comparing the measured strength of the communication from the current cell and the measured strength of the communication from the at least one other cell being measured in the measuring (Cols. 4 lines 23 – 65, 5 lines 1 – 21, in soft handoff there will be a periodic comparison between current or serving cell and the other cell(s) in the active set in order to determine which cell has

the better signal strength, when a cell in the active set other than the current cell proves to have a better signal strength the connection with the current/serving cell will be released and the call will be continued only through the new cell thus completing the handoff); and depending on result from the comparison, changing the current cell with which the station is associated, wherein said predetermined condition is that the strength of the communication from at least one other cell is greater than a threshold (Cols. 4 lines 23 – 65, 5 lines 1 – 21, in soft handoff there will be a periodic comparison between current or serving cell and the other cell(s) in the active set in order to determine which cell has the better signal strength, when a cell in the active set other than the current cell proves to have a better signal strength the connection with the current/serving cell will be released and the call will be continued only through the new cell thus completing the handoff).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Charbonnier with the above features of Periyalwar for the purpose of providing a soft handoff method that optimizes bandwidth and processing usage as taught by Periyalwar.

Sundelin, which also teaches soft handoff, teaches the modifying the signal strength of the communication from at least one other cell when the strength of the communication from the at least one other cell is greater than a threshold (Abstract, the signal strength of the cells in the active set are modified via the power control, said power control of the signals of the cells in the active set can only occur after said cells have been placed in the active set, which means that said modifying occurs after the

pilot strength of the at least one other cell exceeds a threshold), if modifying is performed, comparing the measured strength of the communication from the current cell and the measured strength of the communication from the at least one other cell being modified in the modifying (Abstract, the comparison of the measured strength of the communication from the current cell and the measured strength of the communication from the at least one other cell can only occur after the cells have been placed in the active set, since the modifying occurs after said cells have been placed in the active set a scenario is rendered that comprises said comparison occurring if said modifying is performed).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Charbonnier in view of Periyalwar with the system of Sundelin for the purpose of reducing interference as taught by Sundelin.

Regarding Claim 177, Charbonnier teaches a station for use in a cellular communication system, said station being associated with a current cell, said station comprising: measurer for measuring the received strength of a communication from said current cell (Column 8 lines 19 – 22, Column 8 lines 41 – 57, Esubi is the strength of the communication); measurer for measuring the received strength of a communication from at least one other cell (Column 8 lines 41 – 57).

Charbonnier does not teach a controller for modifying the measured received strength of the communication from the at least one other cell to take into account a condition of said current and/or said at least one other cell if the measured strength of the communication from the at least one other cell satisfies a predetermined condition,

the controller for comparing, if the controller has modified the measured received strength, the modified measured received strength with the measured received strength of a communication from the current cell; the controller for causing, depending on results of the comparison, the current cell with which the station is associated to be changed, wherein said predetermined condition is that the strength of the communication from at least one other cell is greater than a threshold.

Periyalwar, which teaches handoff, teaches the feature of a controller measuring the strength of the communication from at least one other cell to take into account a condition of said at least one other cell if the measured strength of the communication from the at least one other cell satisfies a predetermined condition, wherein said predetermined condition is that the strength of the communication from at least one other cell is greater than a threshold (Cols. 4 lines 23 – 65, 5 lines 1 – 21, at least one other cell whose pilot strength exceeds a threshold will be added to the active set and thus taken into account), if said measuring is performed by the controller, the controller comparing the measured strength of the communication from the current cell and the measured strength of the communication from the at least one other cell being measured in the measuring (Cols. 4 lines 23 – 65, 5 lines 1 – 21, in soft handoff there will be a periodic comparison between current or serving cell and the other cell(s) in the active set in order to determine which cell has the better signal strength, when a cell in the active set other than the current cell proves to have a better signal strength the connection with the current/serving cell will be released and the call will be continued only through the new cell thus completing the handoff); and depending on result from

the comparison, changing the current cell with which the station is associated, wherein said predetermined condition is that the strength of the communication from at least one other cell is greater than a threshold (Cols. 4 lines 23 – 65, 5 lines 1 – 21, in soft handoff there will be a periodic comparison between current or serving cell and the other cell(s) in the active set in order to determine which cell has the better signal strength, when a cell in the active set other than the current cell proves to have a better signal strength the connection with the current/serving cell will be released and the call will be continued only through the new cell thus completing the handoff).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Charbonnier with the above features of Periyalwar for the purpose of providing a soft handoff method that optimizes bandwidth and processing usage as taught by Periyalwar.

Sundelin, which also teaches soft handoff, teaches the modifying the signal strength of the communication from at least one other cell when the strength of the communication from the at least one other cell is greater than a threshold (Abstract, the signal strength of the cells in the active set are modified via the power control, said power control of the signals of the cells in the active set can only occur after said cells have been placed in the active set, which means that said modifying occurs after the pilot strength of the at least one other cell exceeds a threshold), if modifying is performed, comparing the measured strength of the communication from the current cell and the measured strength of the communication from the at least one other cell being modified in the modifying (Abstract, the comparison of the measured strength of the

communication from the current cell and the measured strength of the communication from the at least one other cell can only occur after the cells have been placed in the active set, since the modifying occurs after said cells have been placed in the active set a scenario is rendered that comprises said comparison occurring if said modifying is performed).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Charbonnier in view of Periyalwar with the system of Sundelin for the purpose of reducing interference as taught by Sundelin.

4. Claims 5, 6, 23 – 24, 31, 32, 35 - 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Charbonnier (5,241,686) in view of Periyalwar et al. (6,018,662) in view of Sundelin et al. (6,144,861), as applied to Claim 1 above, and in further view of Karlsson (5,640,677).

Regarding Claim 5, Charbonnier in view of Periyalwar in view of Sundelin and in further view of Karlsson teaches all of the claimed limitations recited in Claim 1. Karlsson further teaches wherein the threshold is defined relative to the measured strength of the communication from the current cell (Column 11 lines 25 – 28, in order for the neighbor cell to be selected the threshold must be higher than the strength of the communication from the current cell thus said threshold will be defined relative to the strength of the communication from the current cell).

Regarding Claim 6, 32, Charbonnier in view of Periyalwar in view of Sundelin and in further view of Karlsson teaches all of the claimed limitations recited in Claims 1, 6.

Karlsson further teaches wherein information defining the threshold is included in the communication from the current cell (Column 10 lines 3 – 8, Column 10 lines 63 – 67, Column 11 lines 1 – 3, Column 11 lines 10 – 11).

Regarding Claim 23, Charbonnier in view of Periyalwar and in further view of Sundelin teaches all of the claimed limitations recited in Claim 22. Charbonnier in view of Periyalwar and in further view of Sundelin does not teach said at least one other station requiring a different procedure in order to determine if a new current cell is required.

Karlsson teaches at least one other station requiring a different procedure in order to determine if a new current cell is required (Column 11 lines 25 – 28, the procedure is based on the threshold for the neighbor cell).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the different procedure taught above by Karlsson in the wireless system of Charbonnier in view of Periyalwar and in further view of Sundelin as an alternative means for selecting the best server cell for the mobile station thereby enabling reliable communication links to be maintained as said mobile station changes geographic locations as taught by Karlsson.

Regarding Claim 24, Charbonnier in view of Periyalwar in view of Sundelin and in further view of Karlsson teaches all of the claimed limitations recited in Claim 23. Charbonnier teaches wherein the signaling sent by said network to said at least one station and to said at least one other station is dependent on the procedure required by the respective stations to determine if a new current cell is required (Column 6 lines 59

– 68, the correction parameters are broadcasted because the procedure for selecting a new current cell depends on said correction parameters unlike the threshold procedure of Karlsson as described above, which does not depend on said correction parameters).

Regarding Claim 31, Charbonnier in view of Periyalwar and in further view of Sundelin teaches all of the claimed limitations recited in Claim 3. Charbonnier in view of Periyalwar and in further view of Sundelin does not teach wherein the predetermined condition is that the measured strength of the communication from the at least one other cell is greater than a threshold.

Karlsson teaches a predetermined condition that the measured strength of the communication from the at least one other cell is greater than a threshold (Column 11 lines 25 – 28).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the predetermined condition taught above by Karlsson in the wireless system of Charbonnier in view of Periyalwar and in further view of Sundelin as an alternative means for selecting the best server cell for the mobile station thereby enabling reliable communication links to be maintained as said mobile station changes geographic locations as taught by Karlsson.

Regarding Claims 35 – 37, Charbonnier in view of Periyalwar in view of Sundelin and in further view of Karlsson teaches all of the claimed limitations recited in Claims 4 – 6. Charbonnier further teaches wherein offset information as to how the measured strength of a communication from a neighboring cell is to be modified is in the communication from at least one other cell (Column 6 lines 59 – 68).

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RAYMOND S. DEAN whose telephone number is (571)272-7877. The examiner can normally be reached on Monday-Friday 6:00-2:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward F. Urban can be reached on 571-272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Raymond S Dean/
Examiner, Art Unit 2618
Raymond S. Dean
June 22, 2010